In accordance with 37 C.F.R. 1.136(a), a two month extension of time is submitted herewith to extend the due date of the response to the Office Action dated January 29, 2002, for the above-identified patent application from April 29, 2002, through and including June 29, 2002. In accordance with 37 C.F.R. 1.17(a)(3), authorization to charge a deposit account in the amount of $400.00 to cover this extension of time request also is submitted herewith.

Claim 13 has been amended to correct a typographical error therein.

The rejection of Claim 4 under 35 U.S.C. § 112 is respectfully traversed. Claim 4 has been amended and is believed to be compliant with 35 U.S.C. § 112. Accordingly, Applicant respectfully requests that the Section 112 rejection of Claim 4 be withdrawn.

The rejection of Claims 1-3, 11-14, 16, 19-20, and 22 under 35 U.S.C. § 102(e) as being anticipated by Provost et al. (U.S. Patent No. 5,924,051) is respectfully traversed.

Provost et al. describe a demand electronic electricity meter including load profile recording capabilities. A load profile recorder (46) communicates over a control bus (40) with a microcomputer (28), and recorder (46) determines availability of on-board memory and external memory for storing recorded information. Meter programming allocates memory space to store three sets of time change log entries Provost et al. col. 4, lines 1-16. As explained by Provost et al. load profiling refers to energy consumption information stored in discrete time intervals so that a user may analyze the consumption data and modify usage to take advantage of lower rate time periods. Provost et al. col. 1, line 66 to col. 2, line 3 and col. 4, line 43 to col. 5, line 45.

In contrast, the present invention provides a secure program history log for a meter to prevent unauthorized alteration or tampering with meter program parameters used to calculate, for example, energy consumption and to generate meter output data. One illustrative example of such meter parameters include selections of quantities for load profiles. See specification paragraph 14. Thus, the present invention aims, among other things, to provide a program history log to ensure that a load profiling system, such as that described by Provost et al., utilizes

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authorized program parameters to generate the output data of interest. As such, unauthorized programming changes can be detected and accurate load profiling can be ensured.

Claim 1 recites a method for creating a secure program history log for a programmable device including a microprocessor, at least one communications port for communicating with the microprocessor and at least one memory device electrically connected to the microprocessor. The memory device includes a program history log , and the method includes "communicating program parameters to the microprocessor," "creating a log entry utilizing the microprocessor and the program parameters," and "writing the log entry into the program history log utilizing the microprocessor."

Provost et al. neither describe nor suggest a program history log as described in the present specification and recited in Claim 1. Rather, Provost et al. describe a load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. does nowhere describes a method for protecting program parameters used for meter operation, including load profiling.

For the reasons set forth above, Claim 1 is submitted to be patentable over Provost et al.

Claims 2, 3, and 11 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-3 and 11 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2, 3 and 11 likewise are patentable over Provost et al.

Claim 12 recites a system for creating a secure program history log for a programmable device comprising "at least one communications port, said communications port configured to receive inputs comprising program parameters," "a microprocessor configured to receive said program parameters from said communications port and create a log entry based on said program parameters," and "at least one memory device electrically connected to said microprocessor and comprising said program history log, said microprocessor further configured to write said log

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entry into said program history log, thereby protecting said program history log from manipulation via direct communication from said communications port."

Provost et al. neither describe nor suggest a system for creating a secure program history log for a programmable device including a microprocessor configured to write a log entry based on program parameters into a program history log, thereby protecting the program history log from manipulation via direct communication from a communications port. Rather, Provost et al. describe a load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. does nowhere describes a system protecting program parameters used for meter operation, including protecting meter parameters used for load profiling.

For the reasons set forth above, Claim 12 is submitted to be patentable over Provost et al.

Claims 13 and 14, depend, directly or indirectly, from independent Claim 12. When the recitations of Claims 13 and 14 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 13 and 14 likewise are patentable over Provost et al.

Claim 16 recites an electronic electricity meter comprising "a communications port, said communications port configured to receive meter input parameters," "a microprocessor configured to receive said meter input parameters from said communications port and determine energy consumption based upon said meter input parameters, said microprocessor further configured to create a program history log entry when meter parameters are received," and "at least one memory device electrically connected to said microprocessor and comprising a program history log, said microprocessor further configured to write said log entry into said program history log."

Provost et al. neither describe nor suggest a meter including a microprocessor configured to create a program history log when program parameters are received. Rather Provost et al.

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describe a meter including load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. nowhere describes a system protecting program parameters used for meter operation, including load profiling.

For the reasons set forth above, Claim 16 is submitted to be patentable over Provost et al.

Claim 19 depends from independent Claim 16. When the recitations of Claim 19 are considered in combination with the recitations of Claim 16, Applicants submit that dependent Claim 19 likewise is patentable over Provost et al.

Claim 20 recites an electronic electricity meter including "a microprocessor configured to determine energy consumption based upon at least one meter input parameter," "at least one memory device electrically connected to said microprocessor and comprising a program history log," and "a communications port, said communications port configured to receive said at least one meter input parameter for use by said microprocessor; said microprocessor configured to create a program history log entry and configured to write said log entry into said program history log when said at least one meter parameter is received, said program history log comprising at least one of an entry sequence number, a transaction number, a date and time stamp, and a table identifier."

For the reasons set forth above, Provost et al, neither describes nor suggests an electronic electricity meter including a program history log. Rather Provost et al. describe a meter including load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. nowhere describes a system protecting program parameters used for meter operation, including load profiling.

For the reasons set forth above, Claim 20 is submitted to be patentable over Provost et al.

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Claim 22 depends from independent Claim 20. When the recitations of Claim 22 are considered in combination with the recitations of Claim 20, Applicants submit that dependent Claim 22 likewise is patentable over Provost et al..

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 11-14, 16, 19-20, and 22 be withdrawn.

The rejection of Claims 4-10, 15, 17-18 and 21 under 35 U.S.C. § 103 as being unpatentable over Provost et al. in view of Lightbody et al. (U.S. Patent No. 6,000,034) is respectfully traversed.

Provost et al. is described above, and notably nowhere describes a program history log as described in the instant specification and recited in the instant claims.

Lightbody et al. describes a security system for a programmable revenue class electricity meter. The programming can be changed by authorized persons to modify the types of data that can be measured, calculated, recorded, displayed, communicated, and/or stored. The security system checks for a code word that is required to be input by authorized persons prior to any changes in the revenue-related programming. The security system compares the input code to a code word stored in the meter and unlocks restrictions on modification of the revenue-related programming if the input code word matches the stored code word.

While the security system described by Lightbody et al. may prevent unauthorized programming of the meter with password access, Lightbody et al. nowhere describe a program history log as described and recited in the instant claims.

Claims 4-10 depend from independent Claim 1, which recites a method for creating a secure program history log for a programmable device including a microprocessor, at least one communications port for communicating with the microprocessor and at least one memory device electrically connected to the microprocessor. The memory device includes a program history log , and the method includes "communicating program parameters to the

microprocessor," "creating a log entry utilizing the microprocessor and the program parameters," and "writing the log entry into the program history log utilizing the microprocessor."

Provost et al. in view of Lightbody et al. neither describe nor suggest a program history log as described in the present specification and recited in Claim 1. Rather, Provost et al. describe a load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. nowhere describes a method for protecting program parameters used for meter operation, including parameters used for load profiling. Lightbody et al. describe a meter including a security system that compares the input code to a code word stored in the meter and unlocks restrictions on modification of the revenue-related programming if the input code word matches the stored code word. Neither Provost et al. nor Lightbody et al., alone or in combination, describe or suggest a program history to prevent unauthorized programming of a meter.

For the reasons set forth above, Claim 1 is submitted to be patentable over Provost et al. in view of Lightbody et al. When the recitations of Claims 4-10 are considered in combination with the recitations of Claim 1, Claims 4-10 are likewise submitted to be patentable over Provost et al. in view of Lightbody et al.

Claim 15 depends from independent Claim 12, which recites a system for creating a secure program history log for a programmable device comprising "at least one communications port, said communications port configured to receive inputs comprising program parameters," "a microprocessor configured to receive said program parameters from said communications port and create a log entry based on said program parameters," and "at least one memory device electrically connected to said microprocessor and comprising said program history log, said microprocessor further configured to write said log entry into said program history log, thereby protecting said program history log from manipulation via direct communication from said communications port."

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Provost et al. in view of Lightbody et al. neither describe nor suggest a system for creating a secure program history log for a programmable device including a microprocessor configured to write a log entry based on program parameters into a program history log, thereby protecting the program history log from manipulation via direct communication from a communications port. Rather, Provost et al. describe a load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. does nowhere describes a system protecting program parameters used for meter operation, including parameters used for load profiling. Lightbody et al. describe a meter including a security system that compares the input code to a code word stored in the meter and unlocks restrictions on modification of the revenue-related programming if the input code word matches the stored code word. Neither Provost et al. nor Lightbody et al., alone or in combination, describe or suggest a program history to prevent unauthorized programming of a meter.

For the reasons set forth above, Claim 12 is submitted to be patentable over Provost et al. in view of Lightbody et al. When the recitations of Claim 15 are considered in combination with the recitations of Claim 12, Claim 15 is likewise submitted to be patentable over Provost et al. in view of Lightbody et al.

Claims 17-18 depend from independent Claim 16, which recites an electronic electricity meter comprising "a communications port, said communications port configured to receive meter input parameters," "a microprocessor configured to receive said meter input parameters from said communications port and determine energy consumption based upon said meter input parameters, said microprocessor further configured to create a program history log entry when meter parameters are received," and "at least one memory device electrically connected to said microprocessor and comprising a program history log, said microprocessor further configured to write said log entry into said program history log."

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Provost et al. in view of Lightbody et al. neither describe nor suggest a meter including a microprocessor configured to create a program history log when program parameters are received.. Rather Provost et al. describe a meter including load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. nowhere describes a system protecting program parameters used for meter operation, including parameters used for load profiling. Lightbody et al. describe a meter including a security system that compares the input code to a code word stored in the meter and unlocks restrictions on modification of the revenue-related programming if the input code word matches the stored code word. Neither Provost et al. nor Lightbody et al., alone or in combination, describe or suggest a program history to prevent unauthorized programming of a meter.

For the reasons set forth above, Claim 16 is submitted to be patentable over Provost et al in view of Lightbody et al. When the recitations of Claims 17-18 are considered in combination with the recitations of Claim 16, Claims 17-18 are likewise considered to be patentable over Provost et al. in view of Lightbody et al..
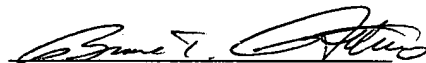
Claim 21 depends from independent Claim 20, which recites Claim 20 recites an electronic electricity meter including "a microprocessor configured to determine energy consumption based upon at least one meter input parameter," "at least one memory device electrically connected to said microprocessor and comprising a program history log," and "a communications port, said communications port configured to receive said at least one meter input parameter for use by said microprocessor; said microprocessor configured to create a program history log entry and configured to write said log entry into said program history log when said at least one meter parameter is received, said program history log comprising at least one of an entry sequence number, a transaction number, a date and time stamp, and a table identifier."

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Provost et al. in view of Lightbody et al. neither describes nor suggests the electronic electricity meter including a program history log. Rather Provost et al. describe a meter including load profiling system that uses three memory logs. As explained above, the program history log per the present invention and the load profile logs described by Provost et al. are fundamentally different in purpose and effect. Provost et al. nowhere describes a system protecting program parameters used for meter operation, including parameters used for load profiling. Lightbody et al. describe a meter including a security system that compares the input code to a code word stored in the meter and unlocks restrictions on modification of the revenue-related programming if the input code word matches the stored code word. Neither Provost et al. nor Lightbody et al., alone or in combination, describe or suggest a program history to prevent unauthorized programming of a meter.

For the reasons set forth above, Claim 20 is submitted to be patentable over Provost et al. When the recitations of Claim 21 are considered in combination with the recitations of Claim 20, Applicants submit that Claim 21 is likewise patentable over Provost et al. in view of Lightbody et al.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ouellette et al.

Serial No.: 09/682,144

Filed: July 26, 2001

For: METHODS AND APPARATUS
        FOR SECURE PROGRAMMING
        OF AN ELECTRICITY METER

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: Art Unit: 2857
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: Examiner: Kim, Paul L.
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SUBMISSION OF MARKED UP CLAIMS

Hon. Assistant Commissioner for Patents
Washington, D.C. 20231

In response to the Office Action dated January 29, 2002 submitted herewith, Applicants hereby submit marked up versions of the amendments therein.
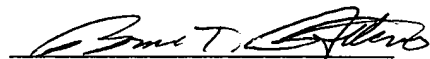
IN THE CLAIMS

4. (once amended) A method in accordance with Claim 1 <u>further comprising</u> [wherein writing the log entry into the program history log includes writing the log entry to the program history log such that] <u>preventing alteration of</u> the log entry [may not be changed] after it [its] <u>is</u> written.

13. (once amended) A system in accordance with Claim 12 wherein said programmable [devices] <u>device</u> comprises an electronic electricity meter.

Respectfully Submitted,

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